

# Work Order ID 71502

Tuesday, July 05, 2011 9:01:36 AM



Page 1

Item ID: D2896-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Support

Start Date: 7/5/2011 Start Qty: 20.00



Cust Item ID:

Required Date: 7/22/2011 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: CL Date: 11/07/05 Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
D2896	Rev U/R <u>OK 11.07.05</u>

100	HAAS CNC VERTICAL MACHINING #1	0.00							
	HAAS 1	0.00							
HAAS CNC vertical machine #1	Memo Machine as per Folio FA167 Folio Rev: <u>AA</u> Dwg Rev: <u>B</u>								

B.A. 11/08/16  
OK 11/08/16

20 p

Deburr


\*\*\*\*Program Batch #\*\*\*\*\*

110	QC1- Inspect dimensions to dimension sheet	0.00							
	QC	0.00							
Quality Control	Memo								

B.A. 11/08/16  
OK 11/08/16

20 p

**U/R**

W/O: 71502		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	
11.07.06	130	PAINT No finish	P 	11.07.06	20	P 11.07.06 031642		
11.08.22	130	<del>PRIME INSIDE BORE (SURFACE THAT CONTACTS XTUBE)</del>				<del>P 11.08.22 031041</del>		

Part No: D2896-1 PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

# Work Order ID 71502

Tuesday, July 05, 2011 9:01:36 AM



Page 2

Item ID: D2896-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Support

Start Date: 7/5/2011 Start Qty: 20.00



Cust Item ID:

Required Date: 7/22/2011 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

120

QC8- Inspect parts - second check

0.00

*SL 11-08-17*



QC

Memo

0.00

Quality Control

130

HandFinishing

0.00



HandFinish

Memo

0.00

Hand Finishing

Mask Ø0.625" and face and bore as per Detail D and note 4 hole prior to paint

140

White Gloss(Ref:4.3.5.2) per QSI005 4.3-Steel

0.00



Powdercoat

Memo

0.00

Powder Coating

START TIME: \_\_\_\_\_ □OVEN TEMPERATURE: \_\_\_\_\_  
□FINISH TIME: \_\_\_\_\_

*N/A*

*No finish*

*CP 11.07.06  
QSI 042*

*N/A*

# Work Order ID 71502

Tuesday, July 05, 2011 9:01:36 AM



Page 3

Item ID: D2896-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Support

Start Date: 7/5/2011 Start Qty: 20.00



Cust Item ID:

Required Date: 7/22/2011 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
150  QC Quality Control	QC3- Inspect Part Finish  Memo	0.00  0.00							
160  SprayPaint Spray Painting	SprayPaint  Memo Prime Bore as per QSI 0054.2.	0.00  0.00	<del>N/A</del>	N/A					
170  QC Quality Control	QC14- Inspect Spray Paint  Memo	0.00  0.00	<del>N/A</del>	N/A					

~~N/A~~ N/A

~~N/A~~ N/A

~~N/A~~ N/A

N/A  
P. 11. 70.04

# Work Order ID 71502

Tuesday, July 05, 2011 9:01:36 AM



Page 4

Item ID: D2896-1

Accept



Setup Start



Revision ID:

Stop



Item Name: Support

Start Date: 7/5/2011 Start Qty: 20.00



Cust Item ID:

Required Date: 7/22/2011 Req'd Qty: 20.00



Customer:

Reference:

Run Start



Approvals: Process Plan: \_\_\_\_\_ Date: \_\_\_\_\_ Tooling: \_\_\_\_\_ Date: \_\_\_\_\_

Stop



QC: \_\_\_\_\_ Date: \_\_\_\_\_ SPC (Y/N): \_\_\_\_\_ Date: \_\_\_\_\_

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

180



Identify as per dwg & Stock Location: *X-tube*

0.00

Packaging

Memo

0.00

Packaging

*nl 11 09 27 20*

190



QC21- Final Inspection - Work Order Release

0.00

QC

Memo

0.00

Quality Control

*11/10/4 20*

*11-10-3 20*

# Picklist Print

Tuesday, July 05, 2011 9:01:33 AM

Page 1

Work Order ID: 71502



Parent Item: D2896-1



Parent Item Name: Support

Start Date: 7/5/2011

Required Date: 7/22/2011

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP: B02.11.26 Reformat; Added P/O; Added mask hole KJ  
IPP Rev: C As per Rev B 07-04-16 JLM  
IPP D 08.03.19 Re-format EC verified by DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

DSK080

Manufactured

No

Each

6.0000

10



D2896-1 TURNING DETAIL

Location

Loc Qty

Loc Code

MAT060

6

→ 47929

6

→ 72659

B4

M.A 11/08/16

W/O:		WORK ORDER CHANGES						
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector	

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_

Resolution: \_\_\_\_\_ Disposition: \_\_\_\_\_ QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

**NOTE:** Date & initial all entries

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	71502
<b>Description:</b> Support		<b>Part Number:</b>	D2896-1
<b>Inspection Dwg:</b> D2896	<b>Rev:</b> B	Page 1 of 1	

### FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim.	Min	Max	Go/No Go Gauge	1	2	3	4	5
<b>HAAS Section</b>								
AA	2.152	2.172		2.155	2.154	2.152	2.152	2.152
AB	2.340	2.360		2.347	2.345	2.345	2.343	2.351
AC	3.550	3.560		3.550	3.550	3.555	3.555	3.553
AD	3.770	3.790		3.786	3.786	3.781	3.780	3.780
AE	0.065 x 0.315	0.085 x 0.335		0.078 x 0.328	0.078 x 0.328	0.078 x 0.335	0.078 x 0.335	0.078 x 0.335
AF	1.42	1.48		1.446	1.447	1.443	1.449	1.441
AG	0.833	0.853		.842	.840	.845	.844	.848
AH	0.240	0.260		.250	.250	.250	.250	.250
AI	0.261	0.266		.261	.261	.262	.262	.262
AJ	0.189	0.194		.189	.189	.190	.190	.190
AK	1.990	2.010		2.004	2.007	2.008	1.998	2.000
AL	0.625	0.630		.625	.625	.625	.625	.625
AM	101.75	105.75		103.75	103.75	103.75	103.75	103.75
AN	0.053	0.073		.063	.063	.063	.063	.063
AO	0.926	0.946		.942	.942	.939	.939	.941
AP								
AQ								
AR								
<b>Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"</b>								
<b>Accept/Reject</b>				.003	.004	.003	.004	.005

**Measured by:** SL / omf **Date:** 11-08-11

**Audited by:** SL **Date:** 11-08-11

**Prototype Approval:**  **Date:**

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	<u>SL</u>



<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	71502
<b>Description:</b> Support		<b>Part Number:</b>	D2896-1
<b>Inspection Dwg:</b> D2896		<b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	16	27	38	49	870
<b>HAAS Section</b>								
AA	2.152	2.172		2.152	2.155	2.152	2.153	2.163
AB	2.340	2.360		2.346	2.349	2.347	2.342	2.348
AC	3.550	3.560		3.555	3.555	3.554	3.556	3.556
AD	3.770	3.790		3.780	3.777	3.778	3.781	3.781
AE	0.065 x 0.315	0.085 x 0.335		0.078x335	0.066x335	0.066x335	0.066x335	0.066x335
AF	1.42	1.48		1.440	1.440	1.439	1.440	1.457
AG	0.833	0.853		.850	.838	.847	.843	.849
AH	0.240	0.260		.250	.250	.250	.250	.250
AI	0.261	0.266		.262	.262	.262	.262	.262
AJ	0.189	0.194		.190	.190	.190	.190	.190
AK	1.990	2.010		2.000	1.999	2.000	1.998	2.008
AL	0.625	0.630		.625	.626	.625	.625	.625
AM	101.75	105.75		103.75	103.75	103.75	103.75	103.75
AN	0.053	0.073		.063	.063	.063	.063	.063
AO	0.926	0.946		.940	.939	.940	.940	.942
AP								
AQ								
AR								
<b>Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"</b>								
<b>Accept/Reject</b>				0045	.003	.0035	.003	.003

**Measured by:** *amz* **Date:** 11/08/16

**Audited by:** *jl* **Date:** 11-08-17

**Prototype Approval:** **Date:**

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	<i>jl</i>

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	7/502
<b>Description:</b> Support		<b>Part Number:</b>	D2896-1
<b>Inspection Dwg:</b> D2896		<b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	1/	2/	3/	4/	5/
<b>HAAS Section</b>								
AA	2.152	2.172		2.164	2.161	2.164	2.159	2.159
AB	2.340	2.360		2.345	2.353	2.350	2.349	2.349
AC	3.550	3.560		3.554	3.554	3.557	3.557	3.556
AD	3.770	3.790		3.778	3.777	3.783	3.783	3.783
AE	0.065 x 0.315	0.085 x 0.335		0.066 x 0.335	0.066 x 0.335	0.066 x 0.335	0.066 x 0.335	0.066 x 0.335
AF	1.42	1.48		1.436	1.445	1.440	1.430	1.440
AG	0.833	0.853		.841	.844	.850	.853	.846
AH	0.240	0.260		.250	.250	.250	.250	0.250
AI	0.261	0.266		.262	.262	.262	.262	0.262
AJ	0.189	0.194		.190	.190	.190	.190	0.190
AK	1.990	2.010		2.005	2.002	2.002	2.008	2.005
AL	0.625	0.630		.626	.625	.626	.626	.626
AM	101.75	105.75		103.75	103.75	103.75	103.75	103.75
AN	0.053	0.073		.063	.063	.063	.063	0.063
AO	0.926	0.946		.941	.942	.942	.943	.941
AP								
AQ								
AR								
<b>Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"</b>								
<b>Accept/Reject</b>				0.015	0.003	0.0035	0.003	0.005

<b>Measured by:</b>	anl / H.A. 11/08/16	<b>Date:</b>	11/08/16
---------------------	---------------------	--------------	----------

<b>Audited by:</b>	JL	<b>Date:</b>	11-08-17
--------------------	----	--------------	----------

<b>Prototype Approval:</b>		<b>Date:</b>	
----------------------------	--	--------------	--

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	

<b>DART AEROSPACE LTD</b>		<b>Work Order:</b>	71502
<b>Description:</b> Support		<b>Part Number:</b>	D2896-1
<b>Inspection Dwg:</b> D2896		<b>Rev:</b> B	<b>Page 1 of 1</b>

### FIRST ARTICLE INSPECTION DIMENSION SHEET

☒ First Article ☐ Prototype

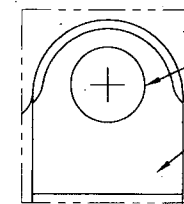
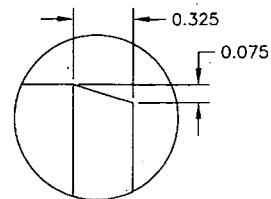
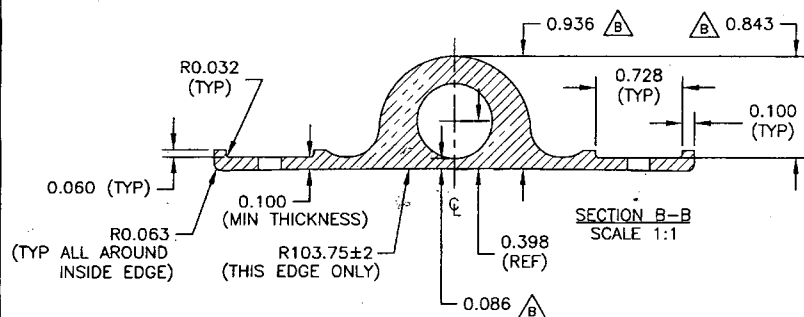
				Record Actual Dimensions				
Dim	Min	Max	Go/No Go Gauge	161	217	318	419	520
<b>HAAS Section</b>								
AA	2.152	2.172		2.159	2.153	2.164	2.164	2.156
AB	2.340	2.360		2.357	2.357	2.349	2.345	2.349
AC	3.550	3.560		3.556	3.554	3.555	3.555	3.555
AD	3.770	3.790		3.783	3.782	3.783	3.783	3.784
AE	0.065 x 0.315	0.085 x 0.335		0.066 x 0.335	0.066 x 0.335	0.066 x 0.335	0.066 x 0.335	0.066 x 0.335
AF	1.42	1.48		1.443	1.443	1.436	1.440	1.444
AG	0.833	0.853		.845	.848	.843	.840	.848
AH	0.240	0.260		0.250	.250	.250	.250	.250
AI	0.261	0.266		0.262	.262	.262	.262	.262
AJ	0.189	0.194		0.190	.190	.190	.190	.190
AK	1.990	2.010		1.996	1.994	1.993	1.991	1.996
AL	0.625	0.630		.626	.625	.626	.626	.626
AM	101.75	105.75		103.75	103.75	103.75	103.75	103.75
AN	0.053	0.073		0.063	.063	.063	.063	.063
AO	0.926	0.946		.941	.943	.943	.938	.942
AP								
AQ								
AR								
<b>Ensure that Ø0.625" bore is perpendicular to 1.764" bore within 0.005"</b>								
<b>Accept/Reject</b>				.0015	.002	.0035	.0045	.0015

**Measured by:** B.A. <sup>HCB/16</sup> *anz* **Date:** 11/08/17

**Audited by:** *SL* **Date:** 11-08-17

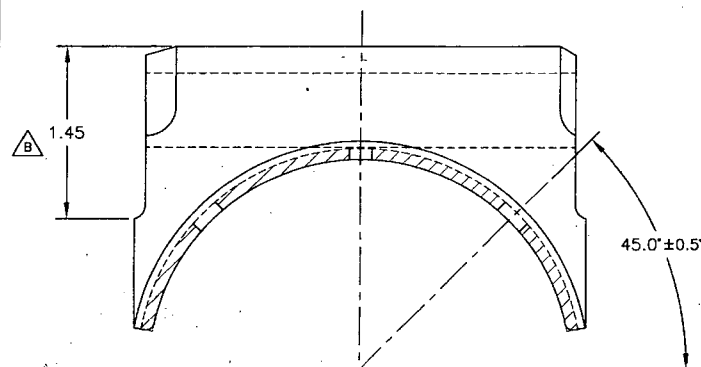
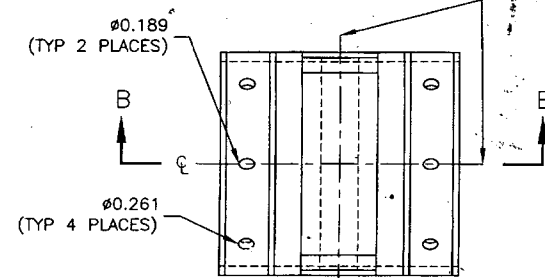
**Prototype Approval:** **Date:**

Rev	Date	Change	Revised by	Approved
A	02.12.13	New Issue	KJ/RF	
B	04.05.27	Dimension AE changed	KJ/RF	
C	06.11.22	Note added to HAAS section	KJ/JLM	
D	07.04.16	Dimsheet updated per Dwg Rev. B	KJ/JLM	
E	08.04.22	Reformat	KJ/JLM	<i>[Signature]</i>

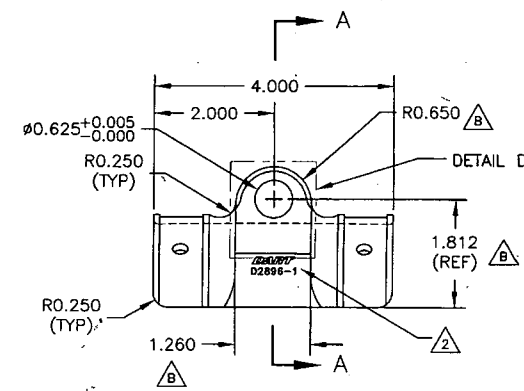
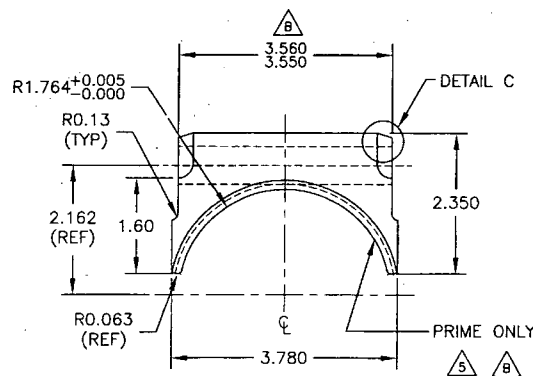


**RELEASED**  
07.04.12  
PER BEN 946

HOLES WITHIN 0.005 OVER ENTIRE LENGTH



C211107105



D2896-1

- 1) MATERIAL: 17-4 PH STAINLESS STEEL  
HEAT TREAT TO H900 CONDITION  
200°F FOR 1 HR, AIR COOL  
MIN UTS = 170 KSI (38 HRc)
- 2) IDENTIFY WITH DART LOGO AND PART NUMBER IN THIS AREA  
WITH 0.125 HIGH LETTERING 0.010-0.020 DEEP
- 3) BREAK ALL UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) PART IS SYMMETRIC ABOUT CENTERLINE
- 5) FINISH: POWDER COAT WHITE (REF 4.3.5.2) PER DART QSI 005 4.3  
PRIME INSIDE SURFACE AS SHOWN PER DART QSI 005 4.2
- 6) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 7) ALL DIMENSIONS ARE IN INCHES

D2896-1

**UNDER REVIEW**  
07.03.11  
NO MORE POWDER COAT

COPYRIGHT © 2001 BY DART AEROSPACE LTD.

THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

B	07.03.19	INCORP. A1-A4, FINISHING NOTES
A	01.10.19	NEW ISSUE
DESIGN	QH	DART DART AEROSPACE LTD. HAMPSHIRE, ONTARIO, CANADA
CHECKED	APPROVED	DRAWING NO. D2896
DATE	07.03.19	TITLE SUPPORT
		REV. B SHEET 1 OF 1 SCALE 1:2

